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CIA No. 1107
5 March 1962

MEMORANDUM FOR: Mr. Robert Wright
Chairman, Executive Committee, EDAC

FROM: CIA Representative, Executive Committee, EDAC

SUBJECT: Comments on Questions Raised in ED/EC D-139, Potential Effectiveness of Proposed Pipe Embargo, Dated 28 February 1962 (SECRET/NOFORN)

REFERENCE: ED/EC D-139, 28 February 1962

1. Enclosure 1, attached, contains comments prepared by this Agency on the questions raised in the referenced memorandum.

2. Enclosure 2, attached, "Oil Country Tubular Goods in the Sino-Soviet Bloc", was prepared originally for the Department of Commerce, but I am sure that you will find it useful. We have made several references to this report in Enclosure 1.

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[redacted]

Enclosures: (2)
1. Comments on Questions Raised in ED/EC D-139
2. Oil Country Tubular Goods in the Sino-Soviet Bloc (with orig. only)

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Enclosure 1

Comments on Questions Raised in

ER/MC D-13

Question 1

There are no specific data available on Soviet capacity or production of 40-inch pipe. In the absence of such data, estimates of production necessarily represent current intelligence judgments that reflect the application of technical knowledge of the pipe making industry to available information concerning Soviet plans, progress, and capabilities in this industry. (See enclosure 2, Oil Country Tubular Goods in the Sino-Soviet Bloc, p. 1, par. 3, line 21; p. 2, last sentence; p. 3, pars. 1, 2, and 3.)

The following summary data on the requirements, lengths, and supply of 40-inch pipe may help to clarify questions on this subject:

A. Length

1. Total length of 40-inch oil and gas lines - 8,100 km.

2. Total length of 40-inch oil line - 1,350 km.

3. Total length of 40-inch gas line - 6,750 km.

B. Steel Requirements

1. Total steel requirements 40-inch pipe estimated on basis of approximately 300 m.t./km.

= 300 x 8100 = [redacted]

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2. Total requirements for 40-inch oil pipe.

= 300 x 1350 = 405,000

3. Total requirements for 40-inch gas pipe.

= 300 x 6750 = 2,025,000

C. Estimated Supply of 40-Inch Pipe in the USSR

1. Soviet domestic production 1961-1965 -	900,000
2. Imports thus far in the 7YP (1959-1961)	
a. From West Germany	480,000
b. From Italy	10,000
3. Contracts:	
a. Italy (contract for 240,000 of which 10,000 delivered)	230,000
b. Sweden	135,000
	1,755,000

D. Net deficit 40-inch pipe for completion of all planned oil and gas lines 1959-1965 - 675,000 tons.

E. Requirements vs supply of 40-inch pipe assuming priority to oil pipeline construction.

1. Total length 40-inch oil pipeline planned - 1,350 km (Kuybyshev to Mozyr')

2. Total pipe requirement for 1,350 km - 405,000 tons.

3. Assume no pipe deliveries from West Germany 1959-1961 (e.g. 490,000 tons of pipe) have gone into oil line.

4. Assume that total of deliveries from the Italian contract (240,000 tons) and Swedish contract (135,000 tons), a total of 375,000 tons, would be utilized in oil pipeline construction. Requirement for 40-inch oil pipe (405,000 tons) minus quantity of 40-inch pipe under contract with Italy and Sweden (total 375,000 tons) would mean that only 30,000 tons of pipe would have to be supplied from domestic production to meet oil pipeline goals.

5. Even assuming some additional requirement — say even as much as 30,000-50,000 tons (100-160 km) — of 40-inch oil pipe for possible paralleling at some points, the USSR would have to produce only 60,000 - 80,000 tons of pipe in its own facilities in the period 1962-63.

Question 2

In 1960 the USSR produced 6.8 million tons of plate with a wall thickness of 4 mm or more. None of this was of the width (3,300 mm) required to make 40-inch pipe on a straight-seam, single weld basis. How much of the 6.8 million tons was of a thickness — about 11 mm — suitable for making 40-inch pipe by welding two, pre-formed halves (straight seam, double-weld basis) is unknown. The third process for making 40-inch pipe is by spiral-welding, in which material down to 4 mm thick and under

2,350 mm in width can be used. However, no 40-inch pipe was made by spiral-welding although production by this process is planned. (See Oil Country Tubular Goods in the Sino-Soviet Bloc, p. 3)

The USSR reportedly is designing a 4,200 mm plate mill, as indicated in Question 2. Only one mill of this type was planned to be installed during 1959-65 and these plans have been cancelled, as noted on page 3 of Oil Country Tubular Goods.

Question 3

There are no apparent reasons why the USSR is unable to make steels capable of withstanding low temperatures.

Question 4

A maximum estimate of requirements for 40-inch gas pipe in the USSR during the Seven Year Plan possibly is 6,700 km, of which 2,000 km or more may be in the Transcaucasus — Ukraine — Central Industrial systems (most of which has been installed) and 4,200 km or more in the Gazli-Urals system (to be completed by 1965). Both systems are intended to supply a wide variety of industrial consumers. Residential and communal service facilities will, in fact, consume only about 10 percent of total gas used in 1965, if plan goals are achieved.

The questions of effects of denial of gas to all planned industrial consumers would require more detailed analysis than is possible for the

time allotted for this response, but it is probable that some industries would not be constructed or expanded on a planned schedule based on use of gas. By the same token others would suffer little or no production loss since they are already equipped to utilize a variety of fuels and the only effect of failure to complete gas pipelines would be that these industries would continue to use solid or liquid fuels rather than converting to gas as planned. The problem of minimizing effects of imbalances in plan fulfillment is one with which the USSR is familiar. Equipment and fuel for priority projects probably could be provided, if necessary at the expense of lower priority industries.

Question 5

There are Soviet data on production of welded pipe, 16-inches and more in diameter, which are shown in the last paragraph of page 2 of Oil Country Tubular Goods in the Sino-Soviet Bloc. Production of 20 to 32 inch pipe cannot be separated from the quantities shown.

Question 6

It appears doubtful that an embargo of pipeline equipment would cause any serious delay in completion of the Friendship system (the USSR-European Satellite oil pipeline). The Office of Oil and Gas, Department of the Interior, recently learned from the US Department of Commerce that the USSR's contract with Italy for pipeline equipment includes 63 pumps

specifically designed for use on 40-inch oil line. It has been estimated roughly that the 40-inch section of oil line from Kuybyshev to Mozyr' (1,350 km) would require a total of only 24 of these pumps (3 pumps in each of 8 pumping stations spaced approximately 160 km apart). Moreover, it has been reported numerous times in the Satellite press that the European Satellites would be furnishing some equipment and controls for the entire Friendship system.